

WHAT IS CLAIMED IS:

1. A system, comprising:

a filter operable to receive an input signal comprising
a first number of channels and further operable to
5 communicate an intermediate output signal comprising a
second number of channels less than the first number of
channels, wherein at least a portion of the filter is formed
on an integrated circuit; and

a tuner coupled to the filter and operable to receive
10 the intermediate output signal and further operable to
communicate an output signal comprising a third number of
channels less than the second number of channels, wherein at
least a portion of the tuner is formed on the integrated
circuit.

15

2. The system of Claim 1, wherein:

the first number of channels is greater than one-
hundred;

the second number of channels is less than forty; and

20 the third number of channels is less than three.

3. The system of Claim 1, wherein:

the first number of channels comprises a plurality of
bands of channels; and

25 the filter comprises a plurality of stages and is
switchable among the plurality of stages to communicate the
intermediate output signal comprising a selected one of the
plurality of bands of channels.

4. The system of Claim 1 wherein:

the first number of channels comprises a plurality of bands of channels; and

the filter comprises a plurality of stages, wherein at least one stage is switchable among a plurality of capacitors to communicate the intermediate output signal comprising a selected one of the plurality of bands of channels.

10 5. The system of Claim 1, wherein the filter comprises at least one stage comprising:

an inductor;

a first capacitor having a first lead and a second lead, wherein the first lead of the first capacitor is coupled to a lead of the inductor; and

a plurality of capacitors, each of the capacitors having a first lead coupled to the first lead of the first capacitor and a second lead switchably coupled to the second lead of the first capacitor.

20

6. The system of Claim 5, further comprising a controller coupled to the filter and operable to enable a selected one of the plurality of stages of the filter and further operable to enable selected ones of the capacitors associated with the selected stage.

25

7. The system of Claim 1, wherein the input signal comprises a radio frequency signal ranging from 48 MHz to 852 MHz.

30

8. The system of Claim 1, wherein the filter comprises an input stage of the tuner.

9. The system of Claim 1, wherein the filter
5 dissipates a plurality of undesired channels associated with the input signal in elements of the integrated circuit such that the undesired signals are not reflected back to a transmitter of the input signal.

10 10. The system of Claim 1, wherein the filter comprises a first filter and further comprising a second filter operable to communicate the input signal to the first filter, the second filter comprising a low-pass filter having an input cutoff frequency higher than 806 MHz.

15

11. The system of Claim 1, wherein:
the input signal comprises a differential signal; and
the intermediate output signal comprises a differential
signal.

20

12. A filter for receiving an input signal comprising a first number of channels and for communicating an intermediate output signal comprising a second number of channels less than the first number of channels, the filter
5 comprising a plurality of stages, at least one stage comprising:

an inductor;

a first capacitor having a first lead and a second lead, wherein the first lead of the first capacitor is
10 coupled to a lead of the inductor; and

a plurality of capacitors, each of the capacitors having a first lead coupled to the first lead of the first capacitor and a second lead switchably coupled to the second lead of the first capacitor.

15

13. The filter of Claim 12, wherein the at least one stage is formed on an integrated circuit.

14. The filter of Claim 12, wherein:

20 the first number of channels comprises a plurality of bands of channels; and

the filter is switchable among the plurality of stages to communicate the intermediate output signal comprising a selected one of the plurality of bands of channels.

25

15. The filter of Claim 12, wherein:

the first number of channels comprises a plurality of
bands of channels; and

the at least one stage is switchable among the
5 plurality of capacitors to communicate the intermediate
output signal comprising a selected one of the plurality of
bands of channels.

16. The filter of Claim 12, wherein the input signal
10 comprises a radio frequency signal ranging from 48 MHz to
852 MHz.

17. The filter of Claim 12, wherein:

the input signal comprises a differential signal; and

15 the intermediate output signal comprises a differential
signal.

18. A method for filtering an input signal,
comprising:

receiving an input signal comprising a plurality of
bands of channels;

5 switching among a plurality of stages of a filter to
communicate an intermediate output signal comprising a
selected one of the plurality of bands of channels, wherein
the filter is formed on an integrated circuit;

receiving the intermediate output signal; and

10 communicating an output signal comprising a subset of
the channels from the selected band of channels.

19. The method of Claim 18, wherein switching further
comprises switching among a plurality of capacitors
15 associated with a particular one of the plurality of stages.

20. The method of Claim 18, wherein receiving the
intermediate output signal and communicating the output
signal are performed at least in part by a tuner and at
20 least a portion of the tuner is formed on the integrated
circuit.

21. The method of Claim 20, wherein the filter
comprises an input stage of the tuner.

22. The method of Claim 18, wherein:
the input signal comprises a first number of channels;
the intermediate output signal comprises a second
number of channels less than the first number of channels;
5 and
the output signal comprises a third number of channels
less than the second number of channels.

23. The method of Claim 22, wherein:
10 the first number of channels is greater than one-
hundred;
the second number of channels is less than forty; and
the third number of channels is less than three.

15 24. The method of Claim 18, wherein the input signal
comprises a radio frequency signal ranging from 48 MHz to
852 MHz.

25. The method of Claim 18, wherein:
20 the input signal comprises a differential signal; and
the intermediate output signal comprises a differential
signal.

26. A system, comprising

first means for receiving an input signal comprising a first number of channels and for communicating an intermediate output signal comprising a second number of channels less than the first number of channels, wherein at least a portion of the first means is formed on an integrated circuit; and

second means for receiving the intermediate output signal and for communicating an output signal comprising a third number of channels less than the second number of channels, wherein at least a portion of the second means is formed on the integrated circuit.

27. The system of Claim 26, wherein the input signal comprises a radio frequency signal ranging from 48 MHz to 852 MHz.